

## CLAIMS

- 1       1.     A voice communication system for use in a packet switching network  
2             environment for communicating voice information, initiated by a telephone  
3             user, to an electronic mail (email) recipient, a public switching telephone  
4             network (PSTN) coupled to at least one telephone device through which the  
5             voice information is communicated, the system comprising:  
6                 a network device responsive, through the PSTN, to a voice message  
7                 generated by the telephone user and operative to convert the voice  
8                 message to an email message for transmission thereof, to manipulate the  
9                 voice message pursuant to commands from the telephone user and to  
10                transmit the email message, in the form of packets, as the voice message is  
11                being received for storage thereof and transmission thereafter to the email  
12                recipient,  
13                wherein the need for secondary storage within the network device for  
14                storage of the email message is avoided while allowing manipulation of  
15                the voice mail by the telephone user.  
16
- 1       2.     A voice communication system, as recited in claim 1, wherein the network  
2             device is further operative to append context history to the email message to  
3             form a first email package and to transmit the first email package to the email  
4             recipient.  
5
- 1       3.     A voice communication system, as recited in claim 2, wherein the context  
2             history is moved to the front of the email message to form a second email  
3             package for transmission thereof from the host server to the network device  
4
- 1       4.     A voice communication system as recited in claim 2 wherein the context  
2             history includes commands identified by the telephone user.  
3

- 1 5. A voice communication system, as recited in claim 3, wherein the  
2 environment includes a host server, responsive to the email messages, in  
3 packet form, through a first connection.  
4
- 1 6. A voice communication system, as recited in claim 5, further including a  
2 second connection between the host server and the network device for  
3 coupling the second email package therebetween.  
4
- 1 7. A voice communication system, as recited in claim 6, wherein the network  
2 device is further responsive to the second email package through the second  
3 connection and further operative to parse the email message from the second  
4 email package and to convert the same back to the voice message for editing  
5 by the telephone user.  
6
- 1 8. A voice communication system, as recited in claim 7, wherein the network  
2 device is responsive to a modified voice message from the telephone user and  
3 is operative to convert the modified voice message to a modified email  
4 message, append further context history to the modified email message to  
5 form a modified email package, establish a third connection between the  
6 network device and the host server for transmission of the modified email  
7 message to the host server.  
8
- 1 9. A voice communication system, as recited claim 7, wherein the network  
2 device is further operative to receive a command from the telephone user  
3 indicating playback of the voice message, playback the voice message to the  
4 telephone user and await further commands from the telephone user to be  
5 performed on the voice message.  
6
- 1 10. A voice communication system, as recited in claim 8, wherein the first,  
2 second and third connections are terminated each time after transmission of an  
3 email package through the first, second and third connections, respectively.

4

1 11. A voice communication system, as recited in claim 8, wherein the first,  
2 second and third connections are used for coupling information in the form of  
3 packets in accordance to SMTP.

4

1 12. A voice communication system, as recited in claim 8, wherein the network  
2 device is coupled to the at least one of the telephone devices through PSTN.

3

1 13. A voice communication system, as recited in claim 8, wherein the host server  
2 is coupled to the email recipient through TCP/IP network.

3

1 14. A voice communication system, as recited in claim 13, wherein the TCP/IP  
2 network includes further host servers.

3

1 15. A voice communication system, as recited in claim 7, wherein the network  
2 device is further operative to receive a command from the telephone user  
3 indicating to discard the voice message whereupon the network device is  
4 operative to discard the voice message.

5

1 16. A voice communication system, as recited in claim 1, wherein the network  
2 device is an access server.

3

1 17. A voice communication system as recited in claim 16, wherein the access  
2 server includes a router device responsive to the voice message for conversion  
3 thereof to the email message.

4

1 18. A voice communication system, as recited in claim 17, wherein the router  
2 device includes a coder/decoder device for compressing the voice message  
3 prior to conversion thereof to the email message and prior to transmission  
4 thereof to the host server and for decompressing the voice message prior to  
5 transmission thereof to the telephone user.

6

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19. A method for communicating voice information for use in a voice communication system within a packet switching network environment to an electronic mail (email) recipient, the system including at least one telephone device for communicating the voice information initiated by a telephone user, through a public switching telephone network and further including a host server responsive to email messages, transmitted in packet form, through the packet switching network, the method comprising:

receiving a voice message by a network device, the voice message being generated by the telephone user;

converting the received voice message to an email message;

continuing to receive the voice message;

manipulating the received voice message;

streaming the email message, in the form of packets, out of the network device, for transmission thereof to the host server as the voice message is being received; and

avoiding storage of the streamed email message within the network device prior to transmission thereof to the email recipient.

1

2

3

4

5

20. A method for communicating voice information, as recited in claim 19, further including the steps of appending context history to the email message to form a first email package and transmitting the email package through the first connection to the email recipient.

1

2

3

4

5

21. A method for communicating voice information, as recited in claim 20, further including the step of moving the context history to the front of the email message to form a second email package for transmission thereof between the host server and the network device.

- 1 22. A method for communicating voice information, as recited in claim 21,  
2 further including the step of establishing a first connection between the  
3 network device and the host server for transmission of the email message.  
4
- 1 23. A method for communicating voice information, as recited in claim 21,  
2 further including the step of establishing a second connection between the  
3 host server and the network device for coupling the second email package  
4 therebetween.  
5
- 1 24. A method for communicating voice information, as recited in claim 23,  
2 further including the steps of receiving the second email package through the  
3 second connection, parsing the email message from the second email package  
4 and converting the same back to the voice message for editing by the  
5 telephone user.  
6
- 1 25. A voice communication system for use within a packet switching network  
2 environment for communicating voice information, initiated by a telephone  
3 user, included within electronic mail (email) messages, to an email recipient,  
4 comprising:  
5 means for receiving a voice message by a network device, the voice  
6 message being generated by the telephone user;  
7 means for converting the received voice message to an email message;  
8 means for continuing to receive the voice message;  
9 means for editing the received voice message; and  
10 means for streaming the email message, in the form of packets, out of the  
11 network device, for transmission thereof as the voice message is being received.  
12
- 1 26. A voice communication system, as recited in claim 25, further including  
2 means operative to append context history to the email message to form a first  
3 email package and to transmit the first email package to the email recipient.  
4

- 1       27.    A voice communication system, as recited in claim 26, wherein the context  
2            history is moved to the front of the email message to form a second email  
3            package for transmission thereof from a host server to the network device.  
4
- 1       28.    A voice communication system as recited in claim 26 wherein the context  
2            history includes commands identified by the telephone user.  
3
- 1       29.    A voice communication system, as recited in claim 27, wherein the  
2            environment includes a host server, responsive to the email messages, in  
3            packet form, through a first connection.  
4
- 1       30.    A voice communication system, as recited in claim 29, further including a  
2            second connection between the host server and the network device for  
3            coupling the second email package therebetween.  
4
- 1       31.    A voice communication system, as recited in claim 30, wherein the network  
2            device is further responsive to the second email package through the second  
3            connection and further operative to parse the email message from the second  
4            email package and to convert the same back to the voice message for editing  
5            by the telephone user.  
6
- 1       32. A computer readable medium having stored therein computer readable program  
2       code comprising instructions for performing the following steps:  
3            receiving a voice message by a network device, the voice message being  
4            generated by a telephone user;  
5            converting the received voice message to an email message;  
6            continuing to receive the voice message;  
7            editing the received voice message;  
8            streaming the email message, in the form of packets, out of the network  
9            device, for transmission thereof to a host server as the voice message is being  
10          received; and

11               avoiding storage of the streamed email message within the network device  
12               prior to transmission thereof to an email recipient.